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ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: LIPID COMPLEXES COATED WITH PEG AND THEIR USE

(57) Abstract: The present invention is related to a lipid composition comprising at least a first lipid component, at least a first helper lipid, and a shielding compound which is removable from the lipid composition under in vivo conditions.



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## INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2005/014074

## A. CLASSIFICATION OF SUBJECT MATTER

INV. A61K47/48

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/04819 A (INEX PHARMACEUTICALS CORP [CA]; RIBOZYME PHARM INC [US]; KLIMUK SANDRA) 4 February 1999 (1999-02-04)  *Whole Document, in particular Example I*	1-18, 26-35, 38-41, 43-55
X	WO 96/10392 A (UNIV BRITISH COLUMBIA [CA]) 11 April 1996 (1996-04-11)  *Whole Document, in particular Sections II.E and II.G-K*	1-18, 26-35, 38-41, 43-55
X	WO 01/05374 A (INEX PHARMACEUTICALS CORP [CA]; MAURER NORBERT [CA]; WONG KIM F [CA];) 25 January 2001 (2001-01-25)  *Whole Document, in particular Examples*  -/--	1-18, 26-35, 38-41, 43-55

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

## \* Special categories of cited documents :

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## INTERNATIONAL SEARCH REPORT

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/34236 A2 (UNIV BRITISH COLUMBIA [CA]; INEX PHARMACEUTICALS CORP [CA]; CULLIS PIE) 2 May 2002 (2002-05-02)  *Whole Document, in particular Examples: Formulations A-F* -----	1-18, 26-35, 38-41, 43-55
X	US 6 586 410 B1 (WHEELER JEFFERY J [CA] ET AL) 1 July 2003 (2003-07-01)  *Whole Document, in particular Tables 1+2* -----	1-18, 26-35, 38-41, 43-55
X	WO 01/80900 A2 (UNIV BRITISH COLUMBIA [CA]; LAM ANGELA M I [CA]; PALMER LORNE R [CA];) 1 November 2001 (2001-11-01)  *Whole Document, in particular Section V.A.2* -----	1-18, 26-35, 38-41, 43-55
P,X	WO 2005/105152 A2 (ATUGEN AG [DE]; KEIL OLIVER [DE]; KAUFMANN JOERG [DE]) 10 November 2005 (2005-11-10) *Whole Document, in particular claims* -----	1-55

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP2005/014074

### Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
  
Although claims 54, 55 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

#### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2005/014074

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9904819	A	04-02-1999	AU 8525098 A CA 2301166 A1 EP 0998306 A1 JP 2001510808 T	16-02-1999 04-02-1999 10-05-2000 07-08-2001
WO 9610392	A	11-04-1996	AT 209901 T AU 3559995 A CA 2201121 A1 DE 69524448 D1 DE 69524448 T2 EP 0792142 A1 JP 10506395 T US 5885613 A	15-12-2001 26-04-1996 11-04-1996 17-01-2002 18-07-2002 03-09-1997 23-06-1998 23-03-1999
WO 0105374	A	25-01-2001	AT 286719 T AU 771706 B2 AU 6256100 A AU 769357 B2 AU 6256200 A BR 0012624 A WO 0105373 A1 CA 2378430 A1 CA 2378438 A1 CN 1361681 A DE 60017406 D1 DE 60017406 T2 EP 1196145 A1 EP 1194122 A1 ES 2235916 T3 JP 2003504390 T JP 2003504391 T	15-01-2005 01-04-2004 05-02-2001 22-01-2004 05-02-2001 02-04-2002 25-01-2001 25-01-2001 25-01-2001 31-07-2002 17-02-2005 29-09-2005 17-04-2002 10-04-2002 16-07-2005 04-02-2003 04-02-2003
WO 0234236	A2	02-05-2002	AU 1485402 A CA 2426244 A1 EP 1328254 A2 JP 2004511572 T	06-05-2002 02-05-2002 23-07-2003 15-04-2004
US 6586410	B1	01-07-2003	NONE	
WO 0180900	A2	01-11-2001	AU 5454801 A EP 1355670 A2 JP 2004508012 T	07-11-2001 29-10-2003 18-03-2004
WO 2005105152	A2	10-11-2005	AU 2005237764 A1 CA 2565633 A1	10-11-2005 10-11-2005